Module 1 - Four Phases of Emergency Management

Introduce –
4 Phases of Emergency Management

Four Phases of Emergency Management

Mitigation & Prevention

Where school officials conduct an assessment to identify potential hazards and develop procedures designated to prevent or mitigate the damage that these hazards might cause.

Definition: Prevention

The positioning of those measures and activities that will lessen the possibility or the impact of an adverse incident in an organization. The primary goals and objectives of prevention are to protect an organization's assets and to manage risk.

Questions: What other preventive activities can be conducted?

Prevention activities

- Review traffic patterns for dangerous conditions.
- Examine existing landscaping looking for tripping hazards, hiding spots and other unsafe conditions.
- CPTED – Crime prevention through environmental design.
- Use security equipment such as cameras (CCTV – Closed Circuit Television), access control systems, and metal detectors.
- Conduct searches of isolated areas.
- Develop student codes of conduct.
- Encourage staff to provide input and feedback into the crisis planning process.
- Review incident data and UVIR's.
- Review the last safety audit.
- Determine the major problems in your school with regard to student crime and violence.
- Assess how the school addresses these problems.
- Conduct an assessment to determine how these problems—as well as others— may impact your vulnerability to certain crises.

Definition:
Mitigation

Mitigation is any action of a long-term, permanent nature that reduces the actual or potential risk of loss of life or property from a hazardous event.

Questions: What other mitigation activities can be conducted?

Mitigation activities

- Assess site selections for schools, annexes and athletic venues.
- Acquire automatic external defibrillators (AED's.)
- Properly secure bookcases and lighting fixtures.
- Correct conditions identified under the prevention activities.
- Ensure televisions are strapped down on movable carts.
- Limit combustible wall and ceiling hangings.
- Connect with community emergency responders to identify local hazards.
- Determine who is responsible for overseeing violence prevention strategies in your school.

Preparedness

Where school officials develop plans and protocols to prepare for the possibility that the hazards previously identified in the mitigation/prevention phase will in fact occur.

Definition:
Preparedness

Those activities, programs, and systems that exist prior to an emergency that are used to support and enhance response to an emergency or disaster.

Questions and comments on this document are welcome. Please contact the Nassau BOCES Health & Safety Training and Information Service at 516-396-2387 or email pladuca@mail.nasboces.org . This program has been funded through a grant from the U.S. Department of Education.

Preparedness activities

- Conduct orientation seminars with students, parents, and staff.
- Establish response teams.
- Conduct fire drills and shelter-in-place drills.
- Determine what crisis plans exist in the district, school, and community.
- Document plans for responding to emergencies.
- Establish MOU's (Memorandum of Understandings)
- Learn ICS (Incident Command System) and NIMS (National Incident Management System.)
- Identify all stakeholders involved in crisis planning.
- Develop procedures for communicating with staff, students, families, and the media.
- Establish procedures to account for students during a crisis.
- Gather information that exists about the school facility, such as maps and the location of utility shutoffs.
- Identify the necessary equipment that needs to be assembled to assist staff in a crisis.

Questions: What other preparedness activities can be conducted?

Response

Where school officials implement the plans and protocols developed in the preparedness phase to respond to an emergency or disaster in or around a school.

Definition: Response

The efforts to minimize the risks created in an emergency by protecting the people, the environment, and property, and the efforts to return the scene to normal pre-emergency conditions; the reaction to an incident or emergency to assess the damage or impact and to ascertain the level of containment and control activity required.

Questions: What other response activities can be conducted?

Response activities

- Determine if a crisis is occurring.
- Identify the type of crisis that is occurring and determine the appropriate response.
- Activate response teams.
- Activate the incident management system.
- Activate and follow established response plans.
- Ascertain whether an evacuation; reverse evacuation; lockdown; or shelter-in-place needs to be implemented.
- Maintain communication among all relevant staff at officially designated locations.
- Establish what information needs to be communicated to staff, students, families, and the community.
- Monitor how emergency first aid is being administered to the injured.
- Decide if more equipment and supplies are needed.

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Recovery

Where school officials work closely with community and government stakeholders to help the affected school(s) recover and return to a sense of normalcy as quickly as possible.

Definition:
Recovery

Recovery refers to those non-emergency measures following a disaster whose purpose is to return all systems, both formal and informal, to as normal as possible.

Recovery activities

- Strive to return to learning as quickly as possible.
- Restore the physical plant, as well as the school community.
- Monitor how staff are assessing students for the emotional impact of the crisis.
- Identify what follow up interventions are available to students, staff, and first responders.
- Conduct debriefings with staff and first responders.
- Assess curricular activities that address the crisis.
- Allocate appropriate time for recovery.
- Capture “lessons learned” and incorporate them into revisions and trainings.

Questions: What other recovery activities may be conducted?

Module 2– Safety Audits & Hazard Assessment

Introduce –
Safety Audits & Hazard Assessment

SAFETY AUDITS / HAZARD ASSESSMENTS

Purpose: To provide educators with an independent auditing tool which will enable them to assess security conditions and allow for recommendations for school improvement at the building and/or district.

Objectives

- Address the topic of a comprehensive security audit.
- Identify the components of the audit process.
- Discuss the hazard assessments.

Comprehensive Security Audit

- Physical facilities
- Organization and procedures
- Other issues

Components of the Audit Process

The level of safety at each school must be assessed according to multiple indicators that apply to the total school facility, the school's climate, and the school's partnership with parents and the community.

At a minimum, the audit process should address the following:

1. Safety and security of buildings and grounds.
2. Development and enforcement of policies.
3. Procedures for data collection.
4. Development of intervention and prevention plans.
5. Level of Staff Development.
6. Opportunities for student involvement.
7. Level of parent and community involvement.
8. Role of Law Enforcement.
9. Development of Crisis Management plans.
10. Standards for safety and security personnel.
11. Americans with Disabilities Act.
12. Emergency response plans.

Note: School safety is the responsibility of everyone

- Staff
- Students
- Parents
- Community

An audit is one tool that if used effectively, can provide a snapshot of the schools' safety and identify areas that need improvement. This proactive process will help ensure that students can achieve their learning potential within a safe and secure environment.

Instruction Note:
Discuss the four steps of the audit process.

Audit Procedure

Planning
Each school division should create a safety audit team that will conduct the audits at schools in the division. Team members should represent a variety of stakeholders including, but not limited to, central office administrators, teachers, school nurses,

counselors, parents, law enforcement personnel, maintenance personnel, and community volunteers. The team should be comprised of from three to six members.

To ensure neutrality and objectivity, team members should not audit their own facility. For example, the principal in School A should be part of the team that audits School B. Team members can rotate off and on the team, depending on the school site being audited.

While a school or school division may choose to contract with private organizations to conduct the safety audits, it is advantageous to use available resources within the school and community, insofar as possible. This helps to develop a sense of ownership throughout the school and community, which is an essential component to maintaining safe schools. Outside consultants usually are unlikely to maintain an ongoing relationship with staff, students, and parents.

Likewise, it is not recommended that a single individual conduct the audit. The team approach provides more objectivity, and the school benefits from the expertise that can be provided by a variety of individuals. Yet another advantage for the school is the opportunity to inform the community about the school's programs, procedures, and initiatives that are focused on maintaining school safety.

Preparation for the On-site visit

Audit team members should review the following documents and materials (if available), preferably in advance of the on-site visit:

- Student Conduct Policy Guidelines.
- Data on student discipline referrals (including referrals to law enforcement.)
- Criminal data (as reported by the school and by the surrounding community to law enforcement.)
- Floor plan of the school.
- Emergency Response Plan.
- Current evacuation/sheltering procedures.
- Attendance data.

The audit team leader should contact the building principal and schedule the on-site visit two or three weeks prior to the visit. The building principal will be able to determine the best date for the audit in an effort to minimize disruption to the instructional schedule.

On-site visit

The audit team should schedule an on-site visit with the building principal two to three weeks prior to the visit. Allow approximately one day to conduct the visit. This will include informal interviews with administrators and randomly-selected staff and students. If a School Resource Officer (SRO) or security officers are assigned to the school, they should be included in the interview process. The purpose of the interviews is to determine the perceived level of safety among various users.

Two or three team members should be adequate to manage the on-site visit. Fewer than two members will not provide a comprehensive and objective assessment, and more than three members may disrupt the school's normal activity.

During the visit, team members should follow the checklists in this packet to ensure that all components of the audit are addressed. Theses checklists can be used as guides, but team members may assess additional components that may be determined locally. The specific activities during the visit include:

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1. Meeting with the building principal and other administrators
2. Informal interviews (see Audit Interview)
3. A walk-through and visual assessment of the buildings and grounds
4. A brief exit interview with the principal

Follow-up to the On-site Visit

Following the visit, the audit team will prepare a written report of the findings to be submitted to the principal and the division superintendent. The report should include (minimally) both commendations and recommendations.

Instruction Note:
Discuss the audit interview process and guidelines.

Audit Interviews

Directions: As part of the on-site visit, audit team members should conduct informal interviews with the administrative staff, selected teachers, and selected students. The purpose of these interviews is to ascertain the information which teachers (and other staff members) and students have regarding the level of safety within the school and to compare perceptions about safety among all users of the school.

Interview Process Guidelines

- The audit team should arrange to meet with the principal, assistant principal, and other administrative team members upon arrival at the school. At this time, the team should discuss with the administrators the schedule for the day's on-site visit, keeping in mind the importance of minimizing distractions from the day's normal activity as much as possible. The administrators may respond to questions in the interview protocol as part of this initial meeting. This may take 45 minutes to one hour to complete.

- Make arrangements with the school's principal or designee to have a small group of students (four to eight) who represent a cross-section of the school (insofar as possible) meet with the audit team at a time that is least disruptive to the instructional schedule. Schedule approximately 15 minutes—no longer than 30 minutes—to conduct the interview with students.

- Make arrangements with the school's principal or designee to have a small group of teachers (four to eight) meet with the audit team at a time that is least disruptive to the instructional schedule, such as during teachers' planning periods. Schedule approximately 15 minutes—no longer than 30 minutes—to conduct the interview with teachers.

- Be certain to assure interviewees that the audit team will respect confidentiality and will report only information, not individuals' comments.

- It is recommended that the principal receive a copy of the interview questions prior to the on-site visit, with an explanation that the questions will be used as a guide and may not be asked verbatim.

Instruction Note:
Instructor should go through each question and ensure that class participants understand what is required and how it applies to the audit process.

Administrator's Interview Guideline

1. Is there a Building Level Safety Team at the school? Who is represented—staff? Students? Parents? Others? How often does it meet? How would you evaluate its effectiveness?

2. What strategies are in place that you perceive to be most effective in establishing a positive and safe school climate?

3. What alternatives to suspension and expulsion are included in the discipline policy?
4. Is there a visible law enforcement presence at the school? In what way?
5. How are students involved in maintaining a safe school climate?
6. How are students, staff, and parents made aware of the student code of conduct?
7. In general terms, what does the school's data reveal about the level of safety, both during and after regular school hours?
8. How is data used to establish and implement prevention and intervention strategies?
9. To what degree have staff members (including support staff) received training related to safe school issues?
10. If parents express safety concerns, how are these concerns addressed?
11. Is it your perception that students in this school would report to some adult knowledge about potential danger to themselves or to others? To whom would they be most likely to disclose this information? Do you have an anonymous reporting system?
12. Is there other information about safety issues in this school that you would like to have included as part of this report?

Thank you for you time and for sharing your thoughts with us.

Instruction Note:
Instructor should go through each question and ensure that class participants understand what is required and how it applies to the audit process.

Teacher and Staff Interview Guideline

1. What, if any, are your personal safety concerns at this school?
2. What, if any, locations in the school (or on school grounds) feel unsafe to you?
3. This school year, have you personally or any of your colleagues (to your knowledge) had any personal belongings stolen?
4. This school year, have you personally or any of your colleagues (to your knowledge) been threatened, either verbally, physically, or in writing? If yes, how was the situation handled and was it handled to your satisfaction?
5. How would you assess your level of knowledge about the student code of conduct?
6. This school year, have there been staff development opportunities related to school safety issues? If so, what type of staff development was provided?
7. Are there safety concerns about which you would like to have training? If so, what are they?
8. To your knowledge, have there been weapons or drugs on campus this school year?
9. Are you aware of any gang activity at school?
10. Does your school have in place a conflict mediation program of any kind?

11. In your opinion, do teachers have the benefit of administrative support related to discipline issues?

12. Does this school provide adequate opportunities for positive recognition of all students? If yes, in what ways?

13. Have all staff members been trained in implementing the crisis management plan?

14. Have all staff members been made aware of their legal responsibilities for the enforcement of safety rules, policies, and state and federal laws?

15. In your opinion, how serious are the following problems at this school?

    a) Vandalism
    b) Gang activity
    c) Alcohol use
    d) Drug use
    e) Tobacco use
    f) Drug selling
    g) Weapons
    h) Bullying
    i) Physical fights
    j) Conflict among diverse ethnic groups
    k) Respect for adults
    l) Respect for students

16. Is there a school safety issue that, in your opinion, is not being adequately addressed to eliminate the problem? Do you have recommendations for addressing the issue?

Thank you for your time and for sharing your thoughts with us.

Student Interview Guideline
(Middle and High school students)

Instruction Note:
Instructor should go through each question and ensure that class participants understand what is required and how it applies to the audit process.

1. Are there any places in this building or any times of the day when you feel unsafe? If so, explain.

2. This school year, have you been physically harmed at school? If so, what was the extent of your injuries?

3. Are you aware of any of your fellow students having been harmed at school, this year?

4. This school year, have you—or do you know of any of your friends—who have been threatened of bullied? If so, what was the school's response to the situation?

5. To your knowledge, are there weapons in this school building or on school grounds? Sometimes? Never?

6. To your knowledge, are there drugs in this school building or on school grounds? Sometimes? Never?

7. Have you ever seen alcohol or other drugs being used, bought, or sold at the school? Sometimes? Never?

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8. If you knew that there was the potential for danger or harm being done to yourself or others at this school would you tell some adult about this? If so, to whom would you go? If not, why not?

9. Do the teachers and principals in this school encourage students to report incidents of harassment, bullying, threats, etc.? Is there a process in place for doing so?

10. Are you aware of any gang activity at this school? If so, do you believe this presents any danger to yourself or to others at this school? Why or why not?

11. Do students who get into fights get help in learning how to resolve conflicts without fighting?

12. Are there programs in this school to help students whose grades are failing?

13. Have students been encouraged to establish clubs and activities with a safety focus?

14. Have students had any training in personal safety and how to avoid becoming victims of violence?

ASSESSMENT APPROACH

- Each building listed for a security review will receive an extensive security audit.
- A comprehensive security audit questionnaire will be provided to all key staff.
- Building and district safety and security plans will be reviewed.
- Key building staff will be interviewed.

ASSESSMENT SCOPE

(Assessment will include, but not be limited to the following)

- School incident reporting systems and mapping.
- School climate.
- Risk reduction programs.
- Bus and transportation issues.
- Open areas.
- Halls and stairwells.
- Restrooms.
- Visitor access.
- Student and staff identification.
- Lighting issues.
- Science/Technology laboratories.
- Storage rooms.
- Emergency preparedness planning.

Instruction Note:
Following is an example of a Security Audit Checklist.

Security Audit Checklist Questions

Site and Building Exterior

Surrounding Environment	
1) The school is in an: Urban – Suburban – Rural Location (pick one)	
(i) Briefly describe any visible impact of the location on the school site and building.	
2) The school is close to an industrial area.	
(i) Briefly describe any visible impact on the school.	
3) The school is adjacent to a shopping area (grocery, convenience or other)	
(i) Briefly describe any visible impact on the school (empty cans, debris, hanging area for groups.)	
4) The school is located adjacent to an interstate.	
(i) Briefly describe any visible impact on the school (increased traffic or other issues, such as damaged fencing.)	
5) The school is off a major (4 lane) state road.	
(i) Briefly describe the traffic flow and how it impacts entry and exit onto the school property (such as the need for acceleration / deceleration lanes.)	
6) The school is on a busy residential road (i.e., not divided by a median.)	
(i) Briefly describe traffic flow and how it impacts entry and exit onto school property (such as the need for acceleration / deceleration lanes.)	
7) School property boundary lines can be visually recognized as separate from adjacent properties.	
8) School grounds are fenced, if appropriate, for reasons of safety, visual separation or pedestrian control. If yes, appropriate height?	
9) Gates, if existing, are secured after regular school hours and school activities.	
10) The school has a marquee (or some other sign) clearly indicating the school's name (and street address.)	
11) The parking lot has signs to direct staff, students and visitors to designated parking areas.	
12) A parking area has been designated for student drivers who leave school grounds during regular school hours.	
13) The school has posted "No Trespassing" signs, including reference to appropriate state laws and local zoning regulations and penalties.	
14) The school has signs to direct visitors to designated points of entry into the building.	

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15) The school has posted "Drug Free Zone" signs.	
16) The school has evaluated and appropriately removed all tree hazards (i.e., the potential of trees or branches to collapse due to rot or damage or to otherwise cause injury or damage.)	
17) The school has trimmed shrubs and foliage to allow for good line of sight (i.e., 3'0" / 8'0" rule.)	
18) The school has removed all identifiable poisonous shrubs, trees and foliage.	
19) The building perimeter is free from trees, branches, and telephone poles that may provide access to the buildings upper floor levels or roof.	
20) Trash bins are available throughout the school site.	
21) The school grounds are free from trash and other debris.	
22) Bus traffic is separated from other vehicular traffic at entrance, exit, and pick-up points.	
23) Bus loading and drop off zones are clearly designated.	
24) Parent drop off and pick up areas are clearly designated.	
25) Staff monitors the bus loading / drop off area and parent drop off and pick up area.	
26) Policy restricts other vehicles from access to the bus-loading zone during loading /unloading.	

Play areas

27) The play areas have clearly defined boundaries and are protected with fencing.	
28) The play areas have ground cover to a depth recommended by the Consumer Product safety Commission (CPSC.)	
29) The play equipment complies with Consumer Product safety Commission guidelines.	
30) The play areas are designated to have adequate water drainage.	
31) Vehicular access is restricted around play areas.	
32) Emergency vehicles can access play areas and ball fields easily.	
33) Bleachers are well maintained (painted with no signs of rust.)	
34) The risers between bleacher seats are protected to prevent entrapment and children from falling through.	
35) Field houses can be secured for safety and security.	

Surveillance

36) The school has designated points of entry which are monitored to control building access.	
37) Visual surveillance of parking lots or monitoring by remote security cameras is possible from the main office or some other area.	
38) Visual surveillance of play areas is possible.	
39) Visual surveillance of bike racks, if present, is possible.	

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40) Law enforcement, security or other staff members patrol parking areas during school hours.	
41) Patrolling security vehicles have access to buildings and grounds after school hours.	
42) Student access to the parking areas is monitored during school hours.	
43) In secondary schools, driver education vehicles are protected from theft and vandalism.	
44) In secondary schools, students and staff members must obtain parking decals or some other appropriate form of identification to authorize legitimate student parking on school property.	

Building Exterior

45) The school exterior walls are free from graffiti.	
46) The exterior windows have no broken glazing.	
47) Basement windows are well protected with a grill or well cover.	
48) Low canopies or awnings have protective parapets to deter their use to climb onto roofs.	
49) Trash containers are located away from canopies.	
50) Mechanical, electrical and other equipment on the ground is surrounded by a protective enclosure.	
51) Roof access ladders are located and designed to prevent unauthorized access to the roof.	
52) Deep recesses in buildings with wings are fenced for safety.	
53) Deep recesses in buildings with wings are well lit.	
54) In a campus style school with doors opening to the outside, classroom doors are locked when rooms are vacant.	
55) Entrances and other points of possible intrusions are well lit.	
56) The building has adequate outside lighting to enhance night safety.	
57) The parking lot lighting provides uniform coverage that supports camera surveillance.	
58) Wall mounted fixtures are protected with a grill cover.	
59) Pole mounted fixtures are located high enough to prevent damage due to vandalism.	
60) Light fixtures are covered with a vandal resistant cover.	
61) Remote security camera and lenses are covered with a vandal resistant casing.	
62) The remote camera location provides maximum coverage of the grounds.	
63) The view angles are free and unobstructed by building elements or trees.	

Building Interior

Administration and Main Lobby

1) The designated entrance door has clearly visible signs showing the location of the main office and advising visitors to report to the office.	
2) Visual surveillance of the main lobby from the office is possible.	
3) Staff members, volunteer personnel, or a security camera monitor the main entrance lobby.	
4) The main lobby is well lit.	
5) Visitors are required to sign in at the main office.	
6) Visitors must show proper identification if they are unrecognized by appropriate school authorities.	
7) Students are issued identification badges.	
8) Staff members (including support staff and bus drivers) are issued identification badges.	
9) Friends, relatives, or non-custodial parents are required to show appropriate identification before the school releases a student from the premises.	
10) The school maintains a record of fire inspection by the local or state fire officer.	
11) Fire drills are conducted as required by Code.	
12) The school maintains a record of required health permits.	
13) Valuable items can be stored in a secure storage area.	
14) The school maintains an up-to-date inventory for all expendable school supplies.	
15) School files and records are maintained in locked, vandal proof, fireproof containers or vaults.	
16) The school has a central security alarm system.	
(i) If yes, provide a description.	

Hallways and Bathrooms

17) The Hallways are uniformly and adequately lit for safety.	
18) Hallways are clean and walls are free of graffiti.	
19) Blind spots in hallways and stairwells are equipped with parabolic mirrors (or some similar surveillance device.)	
20) Remote and isolated hallways are monitored by security cameras or other monitoring methods.	
21) Exit signs are lit, clearly visible, and point in the correct exit direction.	
22) Clear and precise emergency evacuation maps are posted at critical locations.	
23) Hallways with lockers are wide enough to allow for two-way circulation and locker activities during class changes.	

24) Locker bays are well lit; aisles are wide enough to allow circulation in both directions and can be easily supervised.	
25) Bathrooms are bright and well lit.	
26) Adults supervise bathrooms.	
27) The bathroom walls and stalls are free of graffiti.	
28) Exposed plumbing pipes are insulated and protected with a cover.	
29) The lighting fixtures have protective covers.	
30) Bathrooms have a smoke detector.	
31) All bathroom stalls have doors and operable locks.	
32) Bathrooms comply with ADA requirements.	
33) Bathroom door hardware prevents locking from inside.	
34) There is no lay-in ceiling in the bathrooms.	
35) Unused areas of the school can be closed off when not in use after regular school hours.	
36) Stairwells are well lit.	
37) Stairwells are monitored.	
38) There are staff members on hallway duty.	
39) Switches and controls are properly located and protected from unauthorized access.	
40) Visual surveillance of pay phones is possible from main office or monitored in some other way.	
41) Clear signage indicates room numbers, space designations, and provides directional information.	
42) Elevator use is restricted.	
43) The school conducts regular inspections of elevators as required by law.	

Classrooms and Other Instructional Areas

44) Classrooms are well lit.	
45) Vision panels are clear and unobstructed with posters.	
46) A two way communications system is in place between the main office and all classrooms, including supplemental rooms (trailers.)	
47) The location of trailers enables natural surveillance.	
48) If located in isolated areas, the trailers are monitored with security cameras.	
49) The trailers are connected to the school's central alarm system.	
50) The crawl space below the trailers is closed off.	

51) Students are restricted from entering a classroom alone without proper supervision.	
52) The trailers are well lit.	
53) Fume hoods in labs are in good working condition and vent directly to the exterior.	
54) Kiln vent directly to the exterior.	
55) Chemicals and lab equipment in preparation rooms and labs are stored in secure storage spaces.	
56) Lab preparation areas, hazardous storage areas and mechanical rooms are properly protected from unauthorized access.	
57) A log is maintained of all chemicals and other dangerous substances.	
58) Dust removal equipment in shops are in working condition.	
59) Paint booths, auto shops and welding booths are well ventilated and exhaust directly to the exterior.	
60) Eye wash stations in labs and vocational shops are in working condition.	

Gymnasium, Media Center, Music rooms, Commons, and Cafeteria

61) The cafeteria area is well lit.	
62) The commons area is clean and well lit.	
63) The commons area has noise control (such as acoustic panels, split blocks, skewed walls.)	
64) In the commons area a mix of different seating configurations is available.	
65) The media center is well lit.	
66) The media center has a computerized check out system.	
67) Visual surveillance of the reading room and book shelves is possible from the media office and check out counter.	
68) Security scanners at the door detect illegal removal of books & other materials.	
69) Bleachers in gym spaces are safe, secure, and in good repair.	
70) Lockers in gym areas are the open mesh type.	
71) Visual surveillance of the locker rooms from the coach's office is possible.	
72) Lockers are free of graffiti.	
73) There is a mix of private showers and gang showers.	
74) Light fixtures have protective covers.	
75) Exterior access to the auditorium, where available, is controlled and monitored.	
76) Access to catwalk and prop areas is restricted.	
77) Seating for the disabled is available, as per ADA requirements, in the auditorium and the gym.	
78) Instruments are stored in secure storage areas.	

Instructor Note:
Information on gangs is available from the Nassau County Police Department's School Administrators Gang Awareness program (SAGA)
Tel. # 516- 573-8000

GANG AWARENESS

- Defining the problems
- Assess the problems in your area
- Training
- Information sharing
- Tactical Assistance
- Parental Involvement

WHAT CAN YOUR SCHOOL DO?

- Employ a recognized Gang Intervention Program at your school.
- Don't close your school doors at 3:00p.m.
- Employ zero tolerance.
- Establish mentoring programs.
- Work within your organizations.
- Promote opportunities for parents, staff and community organizations to work together.
- Ensure a bias free environment.
- Provide extra-curricular activities & after-school activities.
- Assess your school environment.
- Teach communications & problem solving skills.
- Adopt a dress code.
- Remove graffiti.
- Create alternative school programs.
- Teach conflict resolution skills.
- Provide job opportunities.
- Provide counseling.
- Provide relevant reading materials to staff and students.

WHAT CAN PARENTS DO?

- Know your child's friends & their parents.
- Serve as a school, youth group and community volunteer.
- Communicate regularly with teachers.
- Participate in parenting and awareness workshops.
- Encourage hobbies and positive interests.
- Listen, praise, spend time and encourage your child.
- Utilize school, community and police resources when in need.
- Be involved in cultural and social developments. (Art, Music, etc.)

WHAT CAN COMMUNITY MEMBERS DO?

- Use churches and community centers for mediation and awareness forums.
- Petition municipal, state and federal legislators for space for youth to congregate.
- Join your block watch or tenant associations.
- Organize sports teams and volunteer at youth centers.
- Hire a teenager or encourage local business to do so.
- Become a mentor and share your local skills.
- Recognize and believe that concerned, caring adults can make a difference.
- Utilize school, community and police resources when in need.
- Be involved in cultural and social developments. (Art, Music, etc.)

Module 3 – Guidance for Protecting Building Environments from Airborne Chemical, Biological, or Radiological Attacks

Introduce – Guidance for Protecting Building Environments from Airborne Chemical, Biological, or Radiological Attacks

Note: Portions of this document have been taken from **Protection from Chemical, Biological, or Radiological Attacks** Guidance for Protecting Building Environments from Airborne Chemical, Biological, or Radiological Attacks, National Institute for Occupational Safety and Health (NIOSH)

Scope

This document identifies actions that a building owner or manager can implement without undue delay to enhance occupant protection from an airborne chemical, biological, or radiological (CBR) attack. The intended audience includes building owners, managers, and maintenance personnel of public, private, and governmental buildings, including offices, laboratories, hospitals, retail facilities, schools, transportation terminals, and public venues (for example, sports arenas, malls, coliseums). This document is not intended to address single-family or low-occupancy residential housing (less than five family units). Higher risk facilities such as industrial facilities, military facilities, subway systems, and law enforcement facilities require special considerations that are beyond the scope of this guide.

The likelihood of a specific building being targeted for terrorist activity is generally difficult to predict. As such, there is no specific formula that will determine a certain building's level of risk. Building owners must make their own decisions about how to reduce their building's risk to a CBR attack. These decisions may be aided by a comprehensive building security assessment. Many government and private organizations have identified resources that provide insight into building security assessments. The reference list at the end of this document will help the reader obtain this information.

No building can be fully protected from a determined individual who is intent on releasing a CBR agent. The recommendations in this guide will not preclude injuries or fatalities in the event of a CBR release. However, facility owners and managers can transform their buildings into less attractive targets by increasing the difficulty of introducing a CBR agent, by increasing the ability to detect terrorists before they carry out an intended release, and by incorporating plans and procedures to mitigate the effects of a CBR release. Some of the references listed in the back of this document can provide information on how to recognize if a CBR release has occurred. These recommendations focus on airborne releases of CBR agents* in quantities capable of being easily transported by a few individuals. Protection from other types of attacks such as explosions, building collapses, and water supply contamination require much different measures and are not addressed in this document.

The recommendations set forth in this document are not intended to be a minimum requirement that every building owner and manager should implement for every building. Rather, the decisions concerning which protective measures should be implemented for any building should be based on several factors, including the perceived risk associated with the building and its tenants, engineering and architectural feasibility, and cost.

BACKGROUND

Terrorism events have increased interest in the vulnerability of U.S. workplaces, schools, and other occupied buildings to CBR threats. Of particular concern are the airflow patterns and dynamics in buildings, specifically in the building heating, ventilating, and air-conditioning (HVAC) systems. These systems can become an entry point and a distribution system for hazardous contaminants, particularly CBR agents. Building owners need reliable information about how they can (1) modify their buildings to decrease the likelihood or effects of a CBR incident and (2) respond quickly and appropriately should a CBR incident occur. Comprehensive guidance is needed in several areas, including:

Questions and comments on this document are welcome. Please contact the Nassau BOCES Health & Safety Training and Information Service at 516-396-2387 or email pladuca@mail.nasboces.org . This program has been funded through a grant from the U.S. Department of Education.

- How to modify existing buildings for better air protection and security.
- How to design new buildings to be more secure.
- What plans building managers should prepare in advance to help them make effective decisions in the midst of a CBR incident.

PREPARATORY RECOMMENDATION— KNOW YOUR BUILDING

While more comprehensive guidance is being developed, this document focuses on the shorter-term goals of identifying those protective actions that you can take immediately. But it recognizes that some recommendations may not be feasible for you or in all situations.

In initiating any plan to modify building system design or operation, an important first step is to understand these systems: How were they intended to operate? How do they currently operate?

Getting to know your building may best be handled by conducting a walk-through inspection of the building and its systems, including the HVAC, fire protection, and life-safety systems. During this inspection, compare the most up-to-date design drawings available to the operation of the current systems.* This step may require, or benefit from, the assistance of qualified outside professionals. Without this baseline knowledge, it is difficult to accurately identify what impact a particular security modification may have on building operation. While it is important to understand how the existing building systems function, the systems need not operate per design before you implement security measures.

A ***partial*** list of items to consider during your building walk-through includes:

- What is the mechanical condition of the equipment?
- What filtration systems are in place? What are their efficiencies?
- Is all equipment appropriately connected and controlled? Are equipment access doors and panels in place and appropriately sealed?
- Are all dampers (outdoor air, return air, bypass, fire and smoke) functioning? Check to see how well they seal when closed.
- How does the HVAC system respond to manual fire alarm, fire detection, or fire-suppression device activation?
- Are all supply and return ducts completely connected to their grilles and registers?
- Are the variable air volume (VAV) boxes functioning?
- How is the HVAC system controlled? How quickly does it respond?
- How is the building zoned? Where are the air handlers for each zone? Is the system designed for smoke control?
- How does air flow through the building? What are the pressure relationships between zones? Which building entryways are positively or negatively pressurized? Is the building connected to other buildings by tunnels or passageways?
- Are utility chases and penetrations, elevator shafts, and fire stairs significant airflow pathways?
- Is there obvious air infiltration? Is it localized?
- Does the system provide adequate ventilation given the building's current occupancy and functions?
- Where are the outdoor air louvers? Are they easily observable?
- Are they or other mechanical equipment accessible to the public?
- Do adjacent structures or landscaping allow access to the building roof?

Note: If sufficient questions or surprises arise from the building walk-through, an independent evaluation by a qualified HVAC professional should be used to establish a useful baseline.

SPECIFIC RECOMMENDATIONS

The recommendations can be divided into four general categories: (1) things not to do; (2) physical security; (3) ventilation and filtration; and (4) maintenance, administration, and training. Some of these items, such as securing mechanical rooms, may be started prior to your completing the recommendations in the "Know your building" section. Items within each of the four categories are listed in the order of priority. Items considered to be highly critical are identified by "*******" next to the number. As you review these recommendations, consider their potential implications upon the contract language necessary for existing and future service contracts. A brief discussion of the four categories and some commonly considered recommendations follow.

Things not to do

More than anything else, building owners and managers should ensure that any actions they take do not have a detrimental effect on the building systems (HVAC, fire protection, life safety, etc.) or the building occupants under normal building operation. Some efforts to protect the building from a CBR attack could have adverse effects on the building's indoor environmental quality. Building owners and managers should understand how the building systems operate and assess the impact of security measures on those systems.

*****1. DO NOT PERMANENTLY SEAL OUTDOOR AIR INTAKES.** Buildings require a steady supply of outdoor air appropriate to their occupancy and function. This supply should be maintained during normal building operations. Closing off the outdoor air supply vents will adversely affect the building occupants and likely result in a decrease in indoor environmental quality and an increase in indoor environmental quality complaints.

*****2. DO NOT MODIFY THE HVAC SYSTEM WITHOUT FIRST UNDERSTANDING THE EFFECTS ON THE BUILDING SYSTEMS OR THE OCCUPANTS.** This caution directly relates to the recommendation that building owners and managers should understand the operation of their building systems. If there is uncertainty about the effects of a proposed modification, a qualified professional should be consulted.

*****3. DO NOT INTERFERE WITH FIRE PROTECTION AND LIFE SAFETY SYSTEMS.** These systems provide protection in the event of fire or other types of events. They should not be altered without guidance from a professional specifically qualified in fire protection and life safety systems.

Physical Security

Preventing terrorist access to a targeted facility requires physical security of entry, storage, roof, and mechanical areas, as well as securing access to the outdoor air intakes of the building HVAC system. The physical security needs of each building should be assessed, as the threat of a CBR attack will vary considerably from building to building. For example, the threat to a large corporate headquarters may be considered greater than the threat to a small retail establishment. Some physical security measures, such as locking doors to mechanical rooms, are low cost and will not inconvenience the users of the building. These types of measures can be implemented in most buildings. Other physical security measures, such as increased security personnel or package x-ray equipment, are more costly or may inconvenience users substantially. These measures should be implemented when merited after consideration of the threat and consequences of a terrorist attack. Building owners and managers should be familiar with their buildings and understand what assets require protection and what characteristics about the building or its occupants make it a potential target. By first assessing the vulnerabilities of facilities, building owners and managers can address physical security in an effective manner. While the

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identification and resolution of building vulnerabilities will be specific to each building, some physical security actions are applicable to many building types. These include:

*****1. PREVENT ACCESS TO OUTDOOR AIR INTAKES.** One of the most important steps in protecting a building's indoor environment is the security of the outdoor air intakes. Outdoor air enters the building through these intakes and is distributed throughout the building by the HVAC system. Introducing CBR agents into the outdoor air intakes allows a terrorist to use the HVAC system as a means of dispersing the agent throughout a building.

Publicly accessible outdoor air intakes located at or below ground level are at most risk—due partly to their accessibility (which also makes visual or audible identification easier) and partly because most CBR agent releases near a building will be close to the ground and may remain there. Securing the outdoor air intakes is a critical line of defense in limiting an external CBR attack on a building.

Relocate outdoor air intake vents. Relocating accessible air intakes to a publicly inaccessible location is preferable. Ideally, the intake should be located on a secure roof or high sidewall. The lowest edge of the outdoor air intakes should be placed at the highest feasible level above the ground or above any nearby accessible level (i.e., adjacent retaining walls, loading docks, handrail). These measures are also beneficial in limiting the inadvertent introduction of other types of contaminants, such as landscaping chemicals, into the building.

Extend outdoor air intakes. If relocation of outdoor air intakes is not feasible, intake extensions can be constructed without creating adverse effects on HVAC performance. Depending upon budget, time, or the perceived threat, the intake extensions may be temporary or constructed in a permanent, architecturally compatible design. The goal is to minimize public accessibility. In general, this means ***the higher the extensions, the better***—as long as other design constraints (excessive pressure loss, dynamic and static loads on structure) are appropriately considered. An extension height of 12 feet (3.7 m) will place the intake out of reach of individuals without some assistance. Also, the entrance to the intake should be covered with a sloped metal mesh to reduce the threat of objects being tossed into the intake. A minimum slope of 45° is generally adequate. Extension height should be increased where existing platforms or building features (i.e., loading docks, retaining walls) might provide access to the outdoor air intakes.

Establish a security zone around outdoor air intakes. Physically inaccessible outdoor air intakes are the preferred protection strategy. When outdoor air intakes are publicly accessible and relocation or physical extensions are not viable options, perimeter barriers that prevent public access to outdoor air intake areas may be an effective alternative. Iron fencing or similar see-through barriers that will not obscure visual detection of terrorist activities or a deposited CBR source are preferred. The restricted area should also include an open buffer zone between the public areas and the intake louvers. Thus, individuals attempting to enter these protected areas will be more conspicuous to security personnel and the public. Monitoring the buffer zone by physical security, closed-circuit television (CCTV), security lighting, or intrusion detection sensors will enhance this protective approach.

*****2. PREVENT PUBLIC ACCESS TO MECHANICAL AREAS.** Closely related to the relocation of outdoor air intakes is the security of building mechanical areas. Mechanical areas may exist at one or more locations within a building. These areas provide access to centralized mechanical systems (HVAC, elevator, water, etc.), including filters, air handling units, and exhaust systems. Such equipment is susceptible to tampering and may subsequently be used in a CBR attack. Access to mechanical areas should be strictly controlled by keyed locks, keycards, or similar security measures. Additional controls for access to keys, keycards, and key codes should be strictly maintained.

*****3. PREVENT PUBLIC ACCESS TO BUILDING ROOFS.** Access to a building's roof can allow ingress to the building and access to air intakes and HVAC equipment (e.g., self-contained HVAC units, laboratory or bathroom exhausts) located on the roof. From a physical security perspective, roofs are like other entrances to the building and should be secured appropriately. Roofs with HVAC equipment should be treated like mechanical areas. Fencing or other barriers should restrict access from adjacent roofs. Access to roofs should be strictly controlled through keyed locks, keycards, or similar measures. Fire and life safety egress should be carefully reviewed when restricting roof access.

4. IMPLEMENT SECURITY MEASURES, SUCH AS GUARDS, ALARMS, AND CAMERAS TO PROTECT VULNERABLE AREAS. Difficult-to-reach outdoor air intakes and mechanical rooms alone may not stop a sufficiently determined person. Security personnel, barriers that deter loitering, intrusion detection sensors, and observation cameras can further increase protection by quickly alerting personnel to security breaches near the outdoor air intakes or other vulnerable locations.

5. ISOLATE LOBBIES, MAILROOMS, LOADING DOCKS, AND STORAGE AREAS. Lobbies, mailrooms (includes various mail processing areas), loading docks, and other entry and storage areas should be physically isolated from the rest of the building. These are areas where bulk quantities of CBR agents are likely to enter a building. Building doors, including vestibule and loading dock doors, should remain closed when not in use.

To prevent widespread dispersion of a contaminant released within lobbies, mailrooms, and loading docks, their HVAC systems should be isolated and the areas maintained at a negative pressure relative to the rest of the building, but at positive pressure relative to the outdoors. Physical isolation of these areas (well-sealed floor to roof-deck walls, sealed wall penetrations) is critical to maintaining the pressure differential and requires special attention to ensure airtight boundaries between these areas and adjacent spaces. In some building designs (those having lobbies with elevator access, for example), establishing a negative pressure differential will present a challenge. A qualified HVAC professional can assist in determining if the recommended isolation is feasible for a given building. In addition, lobbies, mailrooms, and loading docks should not share a return-air system or return pathway (e.g., ceiling plenum) with other areas of the building. Some of these measures are more feasible for new construction or buildings undergoing major renovation.

Building access from lobby areas should be limited by security checks of individuals and packages prior to their entry into secure areas. Lobby isolation is particularly critical in buildings where the main lobbies are open to the public. Similar checks of incoming mail should also occur before its conveyance into the secure building areas. Side entry doors that circumvent established security checkpoints should be strictly controlled.

6. SECURE RETURN AIR GRILLES. Similar to the outdoor-air intake, HVAC return-air grilles that are publicly accessible and not easily observed by security may be vulnerable to targeting for CBR contaminants. Public access facilities may be the most vulnerable to this type of CBR attack. A building-security assessment can help determine, which, if any, protective measures to employ to secure return-air grilles. Take caution that a selected measure does not adversely affect the performance of the building HVAC system. Some return-air grille protective measures include (1) relocating return-air grilles to inaccessible, yet observable locations, (2) increasing security presence (human or CCTV) near vulnerable return air grilles, (3) directing public access away from return-air grilles, and (4) removing furniture and visual obstructions from areas near return air-grilles.

7. RESTRICT ACCESS TO BUILDING OPERATION SYSTEMS BY OUTSIDE PERSONNEL. To deter tampering by outside maintenance personnel, a building staff member should escort these individuals throughout their service visit and should visually inspect their work before final acceptance of the service. Alternatively, building

owners and managers can ensure the reliability of pre-screened service personnel from a trusted contractor.

8. RESTRICT ACCESS TO BUILDING INFORMATION. Information on building operations—including mechanical, electrical, vertical transport, fire and life safety, security system plans and schematics, and emergency operations procedures—should be strictly controlled. Such information should be released to authorized personnel only, preferably by the development of an access list and controlled copy numbering.

9. GENERAL BUILDING PHYSICAL SECURITY UPGRADES. In addition to the security measures for HVAC and other building operations described earlier, physical security upgrades can enhance the overall security of a building. A building or building complex might have security fencing and controlled access points. Some buildings such as museums are, by their very nature, openly accessible to the public. However, even in these buildings, areas such as mechanical rooms need to remain off-limits to unauthorized individuals. Unless the building is regarded as open to the general public, owners and managers should consider not allowing visitors outside the lobby area without an escort. Layered levels of security access should be considered. For example, entry to a hospital's patient care areas could be less strict than to hospital laboratories, and successively more strict for other areas, such as ventilation control rooms. Physical security is of prime concern in lobby areas.

Ventilation and Filtration

HVAC systems and their components should be evaluated with respect to how they impact vulnerability to the introduction of CBR agents. Relevant issues include the HVAC system controls, the ability of the HVAC system to purge the building, the efficiency of installed filters, the capacity of the system relative to potential filter upgrades, and the significance of uncontrolled leakage into the building. Another consideration is the vulnerability of the HVAC system and components themselves, particularly when the facility is open to the public. For buildings under secure access, interior components may be considered less vulnerable, depending upon the perceived threat and the confidence in the level of security.

***1. EVALUATE HVAC CONTROL OPTIONS.** Many central HVAC systems have energy management and control systems that can regulate airflow and pressures within a building on an emergency response basis. Some modern fire alarm systems may also provide useful capabilities during CBR events. In some cases, the best response option (given sufficient warning) might be to shut off the building's HVAC and exhaust system(s), thus, avoiding the introduction of a CBR agent from outside. In other cases, interior pressure and airflow control may prevent the spread of a CBR agent released in the building and/or ensure the safety of egress pathways. The decision to install emergency HVAC control options should be made in consultation with a qualified HVAC professional that understands the ramifications of various HVAC operating modes on building operation and safety systems. Depending upon the design and operation of the HVAC system and the nature of the CBR agent release, HVAC control may not be appropriate in all emergency situations. Lobbies, loading docks, and mailrooms might be provided with manually operated exhaust systems, activated by trained personnel to remove contaminants in the event of a known release, exhausting air to an appropriate area. In other instances, manipulation of the HVAC system could minimize the spread of an agent. If an HVAC control plan is pursued, building personnel should be trained to recognize a terrorist attack quickly and to know when to initiate the control measures. For example, emergency egress stairwells should remain pressurized (unless they are known to contain the CBR source). Other areas, such as laboratories, clean rooms, or pressure isolation rooms in hospitals, may need to remain ventilated. All procedures and training associated with the control of the HVAC system should be addressed in the building's emergency response plan.

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***2. ASSESS FILTRATION.** Increasing filter efficiency is one of the few measures that can be implemented in advance to reduce the consequences of both an interior and exterior release of a particulate CBR agent. However, the decision to increase efficiency should be made cautiously, with a careful understanding of the protective limitations resulting from the upgrade. The filtration needs of a building should be assessed with a view to implementing the highest filtration efficiency that is compatible with the installed HVAC system and its required operating parameters. In general, increased filter efficiency will provide benefits to the indoor environmental quality of the building. However, the increased protection from CBR aerosols will occur only if the filtration efficiency increase applies to the particle size range and physical state of the CBR contaminant. It is important to note that particulate air filters are used for biological and radiological particles and are not effective for gases and vapors typical of chemical attacks. These types of compounds require adsorbent filters (i.e., activated carbon or other sorbent-type media) and result in substantial initial and recurring costs.

Upgrading filtration is not as simple as merely replacing a low-efficiency filter with a higher efficiency one. Typically, higher efficiency filters have a higher pressure loss, which will result in some airflow reduction through the system. The magnitude of the reduction is dependent on the design and capacity of the HVAC system. If the airflow reduction is substantial, it may result in inadequate ventilation, reductions in heating and cooling capacity, or potentially frozen coils. To minimize pressure loss, deep pleated filters or filter banks having a larger nominal inlet area might be feasible alternatives, if space allows. Also, high-pressure losses can sometimes be avoided by using prefilters or more frequent filter change outs. Pressure loss associated with adsorbent filters can be even greater.

The integrity of the HVAC system's filter rack or frame system has a major impact upon the installed filtration efficiency. Reducing the leakage of unfiltered air around filters, caused by a poor seal between the filter and the frame, may be as important as increasing filter efficiency. If filter bypass proves to be significant, corrective actions will be needed. Some highefficiency filter systems have better seals and frames constructed to reduce bypass. During an upgrade to higher efficiency filters, the HVAC and filtration systems should be evaluated by a qualified HVAC professional to verify proper performance.

While higher filtration efficiency is encouraged and should provide indoor air quality benefits beyond an increased protection from CBR terrorist events, the overall cost of filtration should be evaluated. Filtration costs include the periodic cost of the filter media, the labor cost to remove and replace filters, and the fan energy cost required to overcome the pressure loss of the filters. While higher efficiency filters tend to have a higher life cycle cost than lower efficiency filters, this is not always the case. With some higher efficiency filter systems, higher acquisition and energy costs can be offset by longer filter life and a reduced labor cost for filter replacements. Also, improved filtration generally keeps heating and cooling coils cleaner and, thus, may reduce energy costs through improvements in heat transfer efficiency. However, when high efficiency particulate air (HEPA) filters and/or activated carbon adsorbers are used, the overall costs will generally increase substantially.

3. DUCTED AND NON-DUCTED RETURN AIR SYSTEMS. Ducted returns offer limited access points to introduce a CBR agent. The return vents can be placed in conspicuous locations, reducing the risk of an agent being secretly introduced into the return system. Non-ducted return air systems commonly use hallways or spaces above dropped ceilings as a return-air path or plenum. CBR agents introduced at any location above the dropped ceiling in a ceiling plenum return system will most likely migrate back to the HVAC unit and, without highly efficient filtration for the particular agent, redistribute to occupied areas. Buildings should be designed to minimize mixing between air-handling zones, which can be partially accomplished by limiting shared returns. Where ducted returns are not feasible or warranted, hold-down clips may be used for accessible areas of dropped ceilings that serve as the return plenum. This issue is closely related to the isolation of lobbies and mailrooms, as shared returns are a common way for contaminants from these areas to disperse into the rest of the

building. These modifications may be more feasible for new building construction or those undergoing major renovation.

4. LOW-LEAKAGE, FAST-ACTING DAMPERS. Rapid response, such as shutting down an HVAC system, may also involve closing various dampers, especially those controlling the flow of outdoor air (in the event of an exterior CBR release). When the HVAC system is turned off, the building pressure compared to outdoors may still be negative, drawing outdoor air into the building via many leakage pathways, including the HVAC system. Consideration should be given to installing low leakage dampers to minimize this flow pathway. Damper leakage ratings are available as part of the manufacturer's specifications and range from ultra-low to normal categories. Assuming that you have some warning prior to a direct CBR release, the speed with which these dampers respond to a "close" instruction can also be important. From a protective standpoint, dampers that respond quickly are preferred over dampers that might take 30 seconds or more to respond.

5. BUILDING AIR TIGHTNESS. Significant quantities of air can enter a building by means of infiltration through unintentional leakage paths in the building envelope. Such leakage is of more concern for an exterior CBR release at some distance from a building, such as a large-scale attack, than for a directed terrorist act. The reduction of air leakage is a matter of tight building construction in combination with building pressurization. While building pressurization may be a valuable CBR-protection strategy in any building, it is much more likely to be effective in a tight building. However, to be effective, filtration of building supply air must be appropriate for the CBR agent introduced. Although increasing the air tightness of an existing building can be more challenging than during new construction, it should still be seriously considered.

Maintenance, Administration, and Training

Maintenance of ventilation systems and training of staff are critical for controlling exposure to airborne contaminants, such as CBR agents.

*****1. EMERGENCY PLANS, POLICIES, AND PROCEDURES.** All buildings should have current emergency plans to address fire, weather, and other types of emergencies. In light of past U.S. experiences with anthrax and similar threats, these plans should be updated to consider CBR attack scenarios and the associated procedures for communicating instructions to building occupants, identifying suitable shelter-in-place areas (if they exist), identifying appropriate use and selection of personal protective equipment (i.e., clothing, gloves, respirators) and directing emergency evacuations. Individuals developing emergency plans and procedures should recognize that there are fundamental differences between chemical, biological, and radiological agents. In general, chemical agents will show a rapid onset of symptoms, while the response to biological and radiological agents will be delayed.* Issues such as designated areas and procedures for chemical storage, HVAC control or shutdown, and communication with building occupants and emergency responders, should all be addressed. The plans should be as comprehensive as possible, but, as described earlier, protected by limited and controlled access. When appropriately designed, these plans, policies, and procedures can have a major impact upon occupant survivability in the event of a CBR release. Staff training, particularly for those with specific responsibilities during an event, is essential and should cover both internal and external events. Holding regularly scheduled practice drills, similar to the common fire drill, allows for plan testing, as well as occupant and key staff rehearsal of the plan, and increases the likelihood for success in an actual event. For protection systems in which HVAC control is done via the energy management and control system, emergency procedures should be exercised periodically to ascertain that the various control options work (and continue to work) as planned.

*****2. HVAC MAINTENANCE STAFF TRAINING.** Periodic training of HVAC maintenance staff in system operation and maintenance should be conducted. This training should include the procedures to be followed in the event of a suspected CBR agent release. Training should also cover health and safety aspects for maintenance personnel, as well as the potential health consequences to occupants of poorly performing systems. Development of current, accurate HVAC diagrams and HVAC system labeling protocols should be addressed. These documents can be of great value in the event of a CBR release.

*****3. PREVENTIVE MAINTENANCE AND PROCEDURES.** Procedures and preventive maintenance schedules should be implemented for cleaning and maintaining ventilation system components. Replacement filters, parts, and so forth should be obtained from known manufacturers and examined prior to installation. It is important that ventilation systems be maintained and cleaned according to the manufacturer's specifications. To do this requires information on HVAC system performance, flow rates, damper modulation and closure, sensor calibration, filter pressure loss, filter leakage, and filter change-out recommendations. These steps are critical to ensure that protection and mitigation systems, such as particulate filtration, operate as intended.

CONCLUSIONS

Reducing a building's vulnerability to an airborne chemical, biological, or radiological attack requires a comprehensive approach. Decisions concerning which protective measures to implement should be based upon the threat profile and a security assessment of the building and its occupants. While physical security is the first layer of defense, other issues must also be addressed. Preventing possible terrorist access to outdoor air intakes and mechanical rooms and developing CBR-contingent emergency response plans should be addressed as soon as possible. Additional measures can provide further protection. A building security assessment should be done to determine the necessity of additional measures. Some items, such as improved maintenance and HVAC system controls, may also provide a payback in operating costs and/or improved building air quality. As new building designs or modifications are considered, designers should consider that practical CBR sensors may soon become available. Building system design features that are capable of incorporating this rapidly evolving technology will most likely offer a greater level of protection. While it is not possible to completely eliminate the risk of a CBR terrorist attack, several measures can be taken to reduce the likelihood and consequences of such an attack. Many of the recommendations presented here are ones that can be implemented reasonably quickly and cost effectively. Many are applicable to both new construction and existing buildings, although some may be more feasible than others. Building owners and managers should assess buildings by looking first for those items that are most vulnerable and can be addressed easily. Additional measures should be implemented as feasible. The goals are to make your building an unattractive target for a CBR attack and to maximize occupant protection in the event that such an attack occurs.

Module 4 – National Incident Management System (NIMS) & Incident Command System (ICS)

Introduce –
National Incident Management System

NATIONAL INCIDENT MANAGEMENT SYSTEM (NIMS)

- NIMS uses a comprehensive approach and national framework for incident management. This framework involves a core set of concepts, principles, procedures, processes, terminology, and standards, which enables a number of public and private agencies to effectively manage incidents.

- NIMS is an integration of best practices that have proven to be effective in a number of settings and incidents. Although the system involves a good deal of standardization, it also provides a flexible and adjustable framework within which government and private entitles at all levels can work together to manage domestic incidents, regardless of their cause, size, location, or complexity. This flexibility applies across all phases of emergency response and crisis management: prevention/mitigation, preparedness, response, and recovery.

COMPONENTS OF NIMS

Command & Management
- Incident Command System
- Multi-agency coordination System
- Public Information System

Preparedness
- Planning
- Training and Exercises
- Standards and Certification
- Mutual Aid
- Information and Publications

Resource Management
- Identify and type resources
- Certify and credential personnel
- Inventory, acquire, mobilize, track and recover

Communications and Information Management

Supporting Technologies

Ongoing NIMS Management

HOW CAN YOUR SCHOOL COMPLY WITH NIMS?

Reference: ➔

- Complete the NIMS Awareness Course

  http://training.fema.gov/emiweb/is/is700.asp

- Formally recognize NIMS and adopt NIMS principles and polices.

- Institutionalize the use of the NIMS Incident Command System.

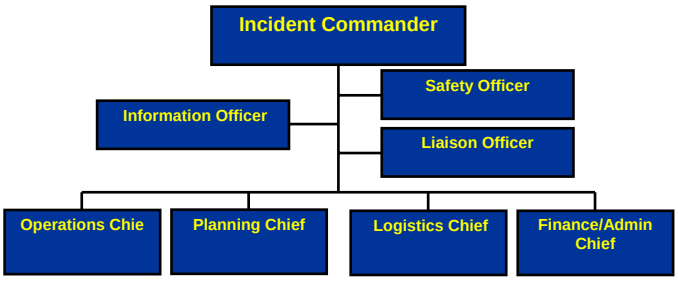
Introduce:
Incident Command System

Reference: ➔

INCIDENT COMMAND SYSTEM (ICS)

Basic Incident Command System
HTTP://TRAINING.FEMA.GOV/EMIWEB/IS/IS195.ASP

- Directs on-scene emergency management.
- ICS is a management system designed to enable effective and efficient incident management by integrating a combination of facilities, equipment, personnel, procedures, and communications. It is used to organize both near-term and long term operations for a broad range of emergencies, from small to complex incidents, both natural and manmade.
- ICS has five functional areas for management of all major incidents:
  - Command
  - Operations
  - Planning
  - Logistics
  - Finance/administration



INCIDENT COMMANDER RESPONSIBILITIES

- Assess the situation.
- Establish objectives.
- Track resources.
- Develop and monitor the action plan.
- Ensure proper documentation.
- Appoint additional staff as necessary.

COMMAND STAFF

Safety Officer – ensures that the safety of students, staff, and others on campus is the highest priority. He or she has the authority to halt any response activities that create an unsafe situation or puts students, faculty, staff, or others at risk.

Public Information Officer (PIO) – acts as a liaison with the public (including the media). He or she must be well informed of the situation at all times and should be the only person to talk to the media. All other staff members should refer media questions to the PIO.

Liaison Officer – acts as a point of coordination between the Incident Command and other public agencies and organizations (e.g. the Red Cross or utility company representatives.)

OTHER ICS SECTIONS

Operations Section – handles all emergency response jobs, including taking care of students as well as handling the challenges of the emergency. Most adult responders will be assigned jobs in the Operations Section.

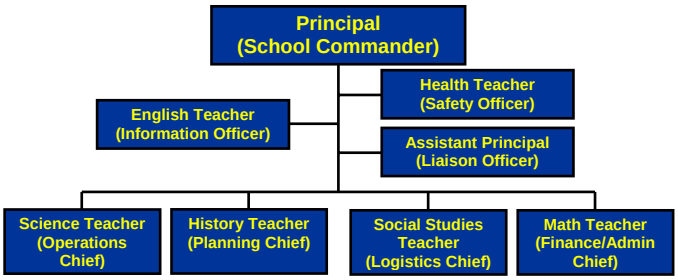
Planning Section – is responsible for tracking both available and needed resources, assessing the changing situation, documenting the response, and managing the large site map at the Command Post.

Logistics Section – manages personnel, supplies, and equipment. During a response, the Logistics Section is responsible for handing out supplies and equipment and for deploying unassigned people for work.

Finance/Administration Section – is responsible for buying materials and keeping financial records of expenditures and employee hours.

Instructor note:
Ensure that the participants consider who would fill each position in their school.

SCHOOL ICS ORGANIZATION

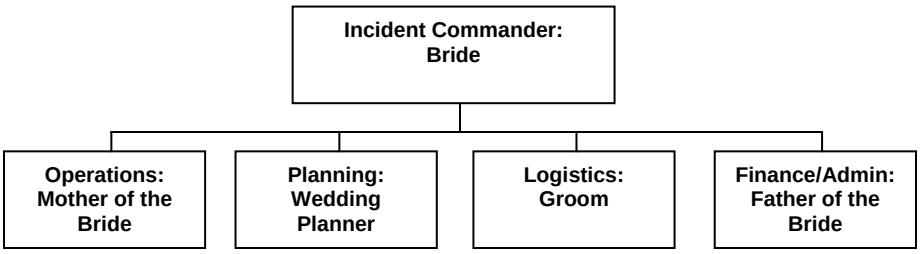


- Not all positions must be filled (but staff who will likely fill each position should be assigned as part of the plan development process so that they can train and exercise in those positions).
- Positions should be assigned based on who is best qualified for each position, not according to seniority in day-to-day work.
- Each key person should have a back-up assigned in case the individual with primary responsibility is unavailable or is injured.
- Each person should be trained to perform the duties of the position.

Instructor note:
Discuss how and why the personnel in the positions change from the day before to the day of the wedding.

WEDDING MODEL OF ICS

Before the Wedding:



Note that:

- Before the wedding, the Bride is the Incident Commander, and the Mother of the Bride is the Operations Chief.
- The Groom serves as the Logistics Chief, and this wedding has hired a wedding consultant to handle the planning.
- The Father of the Bride is always in charge of Finance.

The Day of the Wedding:

Note that:

- During the wedding, the Bride becomes incapable of being the Incident Commander, so she transfers command to the Operations Chief (Mother of the Bride).
- The Incident Command System is modular, so only functions necessary to manage the incident are assigned. On the day of the wedding, the Planning function is not necessary. Therefore, no one is assigned to this position. The Planning function is assigned to Operations.
- During the wedding, the Groom is not able to manage Logistics, so that responsibility is transferred to the Best Man.
- Finance always remains with the Father of the Bride.

Reference Site:

Multi-Hazard Emergency Planning for Schools
http://training.fema.gov/EMIWeb/IS/is362.asp